

WHAT IS CLAIMED IS:

1. A code selection device wherein, an unused spreading code, or one of a plurality of unused spreading codes, differing from spreading codes already allocated to communication channels that have previously been established, is selected for allocation to a new communication channel, comprising:

10 a dummy spreading signal generator for despread dummy original data by using the unused spreading code or codes available for employment, and generating dummy spreading signals;

15 a superimposing unit for superimposing the dummy spreading signals and received signals and forming pseudo superimposed signals that correspond to the unused spreading codes available for employment;

20 a despreading unit for despreading the pseudo superimposed signals by using the unused spreading codes that are related to the corresponding pseudo superimposed signals, and the spreading codes that are already used for the communication channels that previously have been established; and

25 a spreading code selector for, based on data for the communication channels reproduced for the pseudo superimposed signals and the reproduced dummy original data, selecting an unused spreading code for allocation to a new communication channel.

2. A code selection device according to claim 1,
wherein the spreading code selector includes:

a decoder for performing despreading for the
received signal by using the spreading codes that are
5 already employed for the communication channels that have
been established, and for decoding received data;

10 a first differential unit for obtaining, for each
of the pseudo superimposing signals, a difference between
data reproduced for the communication channels that have
been established and corresponding data that have been
received;

15 a second differential unit for obtaining a
difference between dummy original data, which is decoded by
the despreading unit for each of the pseudo superimposing
signals, and the initial dummy original data, which have
been employed for the spreading process; and

20 a spreading code selector for employing the output
of the first differential unit and of the second
differential unit to select an unused spreading code to be
allocated to a new communication channel.

25 3. A code selection device according to claim 2,
wherein, for a specific pseudo superimposing signal, the
spreading code selector compares, with cross-correlation
values for another identical pseudo superimposing signal,
cross-correlation values between differential data output
by the first differential unit and differential data output

by the second differential unit, and selects an unused spreading code that has less affect on the communication channels that have been established.

5 4. A code selection device according to claim 3, wherein the spreading code selector obtains, as cross-correlation values, an even cross-correlation value and an odd cross-correlation value.

10 5. A code selection device according to claim 2, wherein the same differential configuration is applied, in a time-divided manner, for the first differential unit and the second differential unit.

15 6. A code selection device according to claim 1, wherein the despreading unit and the spreading code selector are provided for each communication channel; and wherein a spreading code is selected through parallel processing that uses a spreading code for each

20 communication channel.

25 7. A code selection method whereby an unused spreading code, or one of a plurality of unused spreading codes, differing from spreading codes already allocated to communication channels that have previously been established is selected for allocation to a new communication channel, comprising the steps of:

a dummy spreading signal generator despreading dummy original data by using the unused spreading code or codes available for employment, and generating dummy spreading signals;

5 a superimposing unit superimposing the dummy spreading signals and received signals, and forming pseudo superimposed signals that correspond to the unused spreading codes available for employment;

10 a despreadsing unit despreadsing the pseudo superimposed signals by using the unused spreading codes that are related to the corresponding pseudo superimposed signals, and the spreading codes that are already used for the communication channels that previously have been established; and

15 a spreading code selector selecting an unused spreading code for allocation to a new communication channel, based on data for the communication channels reproduced for the pseudo superimposed signals and the reproduced dummy original data.

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8. A code selection method according to claim 7, whereby the spreading code selector performs the code selection processing through the steps of:

25 a decoder performing despreadsing for the received signal by using the spreading codes that are already employed for the communication channels that have been established, and decoding received data;

a first differential unit obtaining, for each of the pseudo superimposing signals, a difference between data reproduced for the communication channels that have been established and corresponding data that have been received;

5 a second differential unit obtaining a difference between dummy original data, which is decoded by the despreading unit for each of the pseudo superimposing signals, and the initial dummy original data, which have been employed for the spreading process; and

10 a spreading code selector employing the output of the first differential unit and of the second differential unit to select an unused spreading code to be allocated to a new communication channel.

15 9. A code selection method according to claim 8, whereby, for a specific pseudo superimposing signal, the spreading code selector compares, with cross-correlation values for another identical pseudo superimposing signal, cross-correlation values between differential data output 20 by the first differential unit and differential data output by the second differential unit, and selects an unused spreading code that has less affect on the communication channels that have been established.

25 10. A code selection method according to claim 9, whereby the spreading code selector obtains, as cross-correlation values, an even cross-correlation value and an

odd cross-correlation value.

11. A code selection method according to claim 8,
whereby the same differential configuration is applied, in
5 a time-divided manner, for the first differential unit and
the second differential unit.

12. A code selection method according to claim 7,
whereby the despreading unit and the spreading code
10 selector are provided for each communication channel; and
whereby a spreading code is selected through parallel
processing that uses a spreading code for each
communication channel.